
Honours student in Artificial Intelligence at the University of Waikato and the top data analytics graduate of my year. My current honours dissertation continues work begun during a completed, funded summer EEG study; for the dissertation, I rebuilt its software as a reusable platform for future EEG research. I came to machine learning from mathematics and statistics; what keeps me engaged is solving hard problems that demand clear reasoning and learning a new domain. Alongside tutoring probability and statistics, I am working on an NVIDIA-mentored project targeting two open issues in CUB, NVIDIA's open-source CUDA C++ primitives library.

Core Competencies

- **Machine learning and deep learning (Python):** end-to-end PyTorch, transfer learning and LoRA finetuning, from-scratch CNNs, systematic Optuna searches, and evaluation designed to keep the estimate honest.
- **Mathematics & statistics:** probability and stochastic processes taken through derivations and proofs, Bayesian inference, applied statistics in R; tutors and marks Waikato's probability paper.
- **GPU and parallel performance:** CUDA kernel engineering and micro-benchmarking, OpenCL pipeline optimisation, Java parallelism; every gain measured and attributed to a cause rather than assumed.
- **AI & agent tooling:** writes custom Claude Code skills and slash commands that automate real multi-step workflows; daily user of Claude Code and Codex.

Projects and Current Research

EEG flow-state research: summer scholarship and honours dissertation (in progress) 2025–26
University of Waikato

- Designed and built the completed summer study's pipeline from raw 16-channel EEG lab recordings to EEG-BIDS and ML-ready features across 5 participants and 58 usable sessions; devised the labelling strategy and automated marker cleaning against manual review.
- Rebuilt the summer pipeline as a reusable platform for future EEG studies, separating generic acquisition and analysis from study-specific hardware, tasks and labels.
- The dissertation will validate the platform end to end with an eyes-open/eyes-closed case study, then compare classical and deep learning models and experimental feature representations on the flow data.

NVIDIA-mentored GPU research: load balancing in CUB (in progress) 2026
University of Waikato

Researching CTA-level load balancing for segmented scan in CUB, NVIDIA's open-source CUDA C++ primitives library, with a senior NVIDIA AI DevTech engineer. The project targets two open upstream issues: a benchmark that exposes workload imbalance and a balanced path behind CUB's existing interface.

Local speech-to-text with Whisper and agent tooling 2025
Personal project

Pipeline for long-form audio (faster-whisper/CTranslate2) with GPU/CPU fallback, then Claude Code retrieval skills over the transcripts.

Professional Experience

Tutor, Principles of Probability and Statistics 2026
University of Waikato

Teaches a weekly tutorial to a class of 20–30, working the problem sheet on the whiteboard and fielding questions live; also marks their assignments.

Education

BSc (Hons) in Artificial Intelligence 2026
University of Waikato, Hamilton

BSc, Major: Data Analytics 2024–2025
University of Waikato, Hamilton

Honours and Awards

- **University of Waikato Summer Research Scholarship, CMS Prize for Excellence** (top 10 at 300 level), **John Cleary Prize** (top in Algorithms). All 2025.

New Zealand citizen; available full time mid-November 2026 to early February 2027. Referees on request.